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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/554,513	05/17/2000	KAORU MURATA	0425-0781P	3356

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EXAMINER

SIEFKE, SAMUEL P

ART UNIT	PAPER NUMBER
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1743

SHORTENED STATUTORY PERIOD OF RESPONSE	NOTIFICATION DATE	DELIVERY MODE
3 MONTHS	12/29/2006	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Notice of this Office communication was sent electronically on the above-indicated "Notification Date" and has a shortened statutory period for reply of 3 MONTHS from 12/29/2006.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

Office Action Summary

Application No.

09/554,513

Applicant(s)

MURATA ET AL.

Examiner

Samuel P. Siefke

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 October 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 10-14 and 21-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 10-14 and 21-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 10-14 and 21-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ruijten (USPN 4,554,071) in view of Singleton (USPN 5,462,660).

Ruijten discloses a pre-column for preconcentrating substances to be chromatographed along with a separating column. The system comprises a column that is filled with a suitable carrier material or adsorption agent. For HPLC examination of body fluids, pre-treated silica gel, such as silica gel made water-repellent (hydrophobated) is used. For other applications, other carrier materials usual in the liquid chromatographic technique, such as aluminum oxide or ion exchange resins, may also be used. The carrier material is enclosed in the column between two filters, for

example, of sintered metal. A sample of the liquid to be examined is applied to the column by means of a tube with connected syringe, or, if larger volumes are concerned, by means of a pump. The pre-column is then connected downstream to a separation column or chromatography column, which column is also conditioned in the usual manner. The separation column contains the same material as the pre-column. The adsorbed material is then eluted in the separation column by means of a suitable solvent or solvent mixture, after which the separation column is eluted preferably with the same solvent or solvent mixture (col. 4, lines 3-68; col. 5, lines 1-12; col. 8, lines 36-56). The pre-column has a length of 15 cm.

Ruijten does not teach routing of samples to the columns in a specific manner.

Singleton teaches a chemical analysis which comprises a system for separating compounds through a specific flow path. The flow path consists of a transfer pump, an injector, a switching valve, a pre-column, a switching valve, a solvent mixer, a switching valve, a transfer pump, a switching valve, a separation column and a detector in this order (see fig. 1; col. 3, lines 36-60). It would have been obvious to one having an ordinary skill in the art at the time the invention was made to modify Ruijten to employ the flow path as seen in Singleton because this flow path is known in the industry of liquid chromatography for use of separating a plurality of compounds. Regarding the newly amended claim 12 and 13 including a single switching valve, the Examiner is interpreting Singleton as having two single switching valves because the valves are independent from each other. Since claims 12 and 13 are in open ended claim form (comprising), another single switching valve is not excluded. This can be corrected by

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putting some closed ended claim language in the claim, i.e. consisting of or consisting essentially of a single switching valve. Therefore a line connecting a pump, injector, a single switching valve, a column, a switching valve, a solvent mixer, and a switching valve in this order is taught by the prior art of Ruijten in view of Singleton.

Regarding the adsorbing membrane having a thickness of 0.2 to 2mm, it would have been obvious to one having an ordinary skill in the art to modify the thickness of the membrane depending on concentrated the user would want the sample to be. See In re Rose, 105, U.S.P.Q. 237.

Response to Arguments

Applicant's arguments with respect to claims 10-14 and 21-23 have been considered but are moot in view of the new ground(s) of rejection. Applicant argues the reference (Ruijten) fails to disclose or suggest the formation of a gradient using a mixing chamber as claimed, or having the flow sequencing defined by claims 12 and 13. No claims in the present application contain a limitation comprising a formation of a gradient using a mixing chamber. Claims 12 and 13 recite just a mixing chamber. Regarding the specific flow sequence as seen in claims 12 and 13, this can be seen in the new rejection seen above.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Samuel P. Siefke whose telephone number is 571-272-1262. The examiner can normally be reached on M-F 7:00am-5:00pm.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jill A. Warden can be reached on 571-272-1700. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Sam P. Siefke



December 19, 2006


Jill Warden
Supervisory Patent Examiner
Technology Center 1700